

## **REMARKS**

This Application has been carefully reviewed in light of the Office Action mailed May 29, 2008. At the time of the Office Action, Claims 33-41 were pending in this Application. Claims 33-41 were rejected. Claims 33, 34, 36, 37, and 41 have been amended to correct respective informalities. Claims 1-32 were previously cancelled without prejudice or disclaimer. Applicants respectfully request reconsideration and favorable action in this case.

### **Claim Objections**

Claim 41 was objected to because of the limitation of the claim is repeated. Applicants have amended Claim 41 to now refer to the claim 36 as originally intended.

### **Rejections under 35 U.S.C. §103**

Claims 33-34 and 36-39 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent Application Publication No. 2003/0221156 by Harvey L. Berger et al. (“Berger”) Applicants respectfully traverse and submit the cited art, even if proper, which Applicants do not concede, does not render the claimed embodiment of the invention obvious.

Claims 35 and 40 were rejected under 35 U.S.C. §103(a) as being unpatentable over *Berger* in view of U.S. Patent No. 7,133,688 issued to Arnab Das et al. (“Das”). Applicants respectfully traverse and submit the cited art combinations, even if proper, which Applicants do not concede, does not render the claimed embodiment of the invention obvious.

In order to establish a prima facie case of obviousness, the references cited by the Examiner must disclose all claimed limitations. *In re Royka*, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974). Even if each limitation is disclosed in a combination of references, however, a claim composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art. *KSR Int'l Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1741 (2007). Rather, the Examiner must identify an apparent reason to combine the known elements in the fashion claimed. *Id.* “Rejections on

obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *Id.*, citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006). Finally, the reason must be free of the distortion caused by hindsight bias and may not rely on ex post reasoning. *KSR*, 127 S.Ct. at 1742. In addition, evidence that such a combination was uniquely challenging or difficult tends to show that a claim was not obvious. *Leapfrog Enterprises, Inc. v. Fisher-Price, Inc. and Mattel, Inc.*, 485 F.3d 1157, 1162 (Fed. Cir. 2007), citing *KSR*, 127 S.Ct. at 1741.

The Examiner stated correctly that *Berger* fails to disclose configuring the punctured pattern that 8 of 48 bits of the data block are punctured and the 8 of 48 bits of the data block are bits 1, 2, 4, 8, 42, 45, 47 and 48. However, the Examiner concluded that selecting these bits is merely a matter of design choice. Applicant respectfully disagrees.

*Berger* gives that a specific example of which bits can be deleted. See, *Berger* paragraph [0034]. In Table 1, *Berger* teaches to puncture the last bits (10-16) of an inner block. Even though *Berger* states that any bit may be deleted, *Berger* does not teach that a specific selection of bits is advantageous over another selection. See, *Berger* paragraph [0036], lines 12-13. The present application is directed to a method of deleting certain selected bits. The specification particularly states on page 14, lines 17-21:

There are now very many options for how individual bits can be punctured. If for example one wishes, as already stated previously, to investigate all the possible options for puncturing 48 bits to 40 bits, this would be  $48!/(8!*40!) = 377348994$  different options, which cannot all be investigated within a reasonable time.

It is thus, the object of the invention to provide for an optimized scheme of puncturing. See, specification, page 14, lines 22-24. The specification further states on page 17, line 25 to page 18, line 8:

By contrast with methods in which the puncturing rate constantly increases up to the ends, this leads to a result which is not expected per se, since one would expect that the reliability of the coded bits constantly decreases towards the ends. A closer examination for the convolutional encoders used however shows that this assumption is surprisingly not true. The specific

characteristics of the polynomials produce coded bits, particularly at the ends, which contribute less effectively to the coding. These bits however do not occur up to the end in constantly increasing volumes, but are somewhat irregularly distributed. By aligning the puncturing patterns specifically to these "weak" bits, that is by giving preference to puncturing these bits, one can improve the coding even further.

Hence, according to the present invention a specific selection of bits to be punctured leads to an improved reliability. This selection is however not obvious as explained above. Prior art merely increased the puncturing rate or randomly distributed the puncturing rate which both does not lead to the improvement achieved by the selection according to the present independent claims. The Examiner failed to explain why a person skilled in the art would select exactly the combination claimed from 377348994 possible selections. The specification particularly explained why the chosen selection is beneficial and nonobvious. For example, Figure 10 of the specification shows the pattern selection according to claim 33 which shows the improvement over the conventional patterns shown in Figure 6. Similarly, Figure 2 of the specification shows the pattern selection according to claim 34 which shows the improvement over the conventional patterns shown in Figure 3. Figure 4 shows the respective improvement. *See also*, specification, page 20, line 1 to page 21, line 15.

In summary, Applicant believes that all pending independent claims are non-obvious over the prior art. Applicants respectfully submit that the dependent Claims are allowable at least to the extent of the independent Claim to which they refer, respectively. Thus, Applicants respectfully request reconsideration and allowance of the dependent Claims. Applicants reserve the right to make further arguments regarding the Examiner's rejections under 35 U.S.C. §103(a), if necessary, and do not concede that the Examiner's proposed combinations are proper.

ATTORNEY DOCKET  
071308.1121  
(2002P05746WOUS)

PATENT APPLICATION  
10/510,896

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**Association of Customer Number and Change of Correspondence Address**

Applicants respectfully request that all papers pertaining to the above-captioned patent application be associated with Customer No. **31625**, and direct all correspondence pertaining to this patent application to practitioners at Customer Number **31625**. All telephone calls should be directed to Andreas Grubert at 512.322.2545. A Revocation and Power of Attorney has recently been filed.

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### CONCLUSION

Applicants have made an earnest effort to place this case in condition for allowance in light of the remarks set forth above. Applicants respectfully request reconsideration of the pending claims.

Applicants believe there are no fees due at this time, however, the Commissioner is hereby authorized to charge any fees necessary or credit any overpayment to Deposit Account No. 50-2148 of Baker Botts L.L.P.

If there are any matters concerning this Application that may be cleared up in a telephone conversation, please contact Applicants' attorney at 512.322.2545.

Respectfully submitted,  
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Date: September 25, 2008

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